SEQUENCE LISTING

<110> Medizinische Klinik und Poliklinik A des Universitätsklinikums Münster

<120> Fusion polypeptides for antivascular tumor therapy
<130> P 66774

<160> 31

<170> PatentIn version 3.1

<210> 1
<211> 263
<212> PRT
<213> Homo sapiens

<220>
<221> Amino acid sequence of humanem TF

<400> 1

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Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser
1               5                  10                  15

Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln
            20                  25                  30

Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys
        35                  40                  45

Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val
    50                  55                  60

Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala
65                  70                  75                  80

Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn
                85                  90                  95

Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr
            100                 105                 110

Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu
        115                 120                 125

Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg
    130                 135                 140

Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser
145                 150                 155                 160

Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu
                165                 170                 175

Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val
            180                 185                 190
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Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu
        195                 200                 205

Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Glu Ile Phe Tyr Ile Ile
    210                 215                 220

Gly Ala Val Val Phe Val Val Ile Ile Leu Val Ile Ile Leu Ala Ile
225                 230                 235                 240

Ser Leu His Lys Cys Arg Lys Ala Gly Val Gly Gln Ser Trp Lys Glu
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Asn Ser Pro Leu Asn Val Ser
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<210> 2
<211> 2
<212> PRT
<213> Homo sapiens

<220>
<221> Amino acid sequence of tTF_{1-218}

<400> 2

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Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser
1               5                   10                  15

Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln
            20                  25                  30

Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys
        35                  40                  45

Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val
    50                  55                  60

Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala
65                  70                  75                  80

Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn
                85                  90                  95

Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr
            100                 105                 110

Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu
        115                 120                 125

Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg
    130                 135                 140

Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser
145                 150                 155                 160

Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu
                165                 170                 175
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Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val
            180                 185                 190

Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu
        195                 200                 205

Cys Met Gly Gln Glu Lys Gly Glu Phe Arg
    210                 215
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<210> 3
<211> 224
<212> PRT
<213> Artificial

<220>
<221> Amino acid sequence of tTF-GRGDSP

<400> 3

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Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser
1               5                   10                  15

Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln
            20                  25                  30

Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys
        35                  40                  45

Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val
    50                  55                  60

Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala
65                  70                  75                  80

Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn
                85                  90                  95

Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr
            100                 105                 110

Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu
        115                 120                 125

Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg
    130                 135                 140

Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser
145                 150                 155                 160

Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu
                165                 170                 175

Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val
            180                 185                 190

Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu
        195                 200                 205
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Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Arg Gly Asp Ser Asp
    210                 215                 220
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<210> 4
<211> 225
<212> PRT
<213> Artificial

<220>
<221> Amino acid sequence of tTF-GNGRAHA

<400> 4

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Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser
1               5                   10                  15

Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln
            20                  25                  30

Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys
        35                  40                  45

Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val
    50                  55                  60

Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala
65                  70                  75                  80

Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn
                85                  90                  95

Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr
            100                 105                 110

Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu
        115                 120                 125

Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg
    130                 135                 140

Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser
145                 150                 155                 160

Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu
                165                 170                 175

Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val
            180                 185                 190

Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu
        195                 200                 205

Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Asn Gly Arg Ala His
    210                 215                 220

Ala
225
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<210> 5
<211> 228
<212> PRT
<213> Artificial

<220>
<221> Amino acid sequence of tTF-GALNGRSHAG

<400> 5

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Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser
1               5                  10                  15

Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln
            20                  25                  30

Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys
        35                  40                  45

Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val
    50                  55                  60

Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala
65                  70                  75                  80

Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn
                85                  90                  95

Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr
            100                 105                 110

Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu
        115                 120                 125

Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg
    130                 135                 140

Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser
145                 150                 155                 160

Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu
                165                 170                 175

Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val
            180                 185                 190

Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu
        195                 200                 205

Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Ala Leu Asn Gly Arg
    210                 215                 220

Ser His Ala Gly
225
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<210> 6
<211> 225
<212> PRT
<213> Artificial

<220>
<221> Amino acid sequence of tTF-GCNGRCG

<400> 6

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Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser
1               5                  10                  15

Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln
            20                  25                  30

Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys
        35                  40                  45

Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val
    50                  55                  60

Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala
65                  70                  75                  80

Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn
                85                  90                  95

Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr
            100                 105                 110

Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu
        115                 120                 125

Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg
    130                 135                 140

Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser
145                 150                 155                 160

Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu
                165                 170                 175

Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val
            180                 185                 190

Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu
        195                 200                 205

Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Cys Asn Gly Arg Cys
    210                 215                 220

Gly
225
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<210> 7
<211> 232
<212> PRT
<213> Artificial

<220>
<221> Amino acid sequence of tTF-GCNGRCVSGCAGRC

<400> 7

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Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser
1               5                  10                  15

Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln
            20                  25                  30

Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys
        35                  40                  45

Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val
    50                  55                  60

Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala
65                  70                  75                  80

Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn
                85                  90                  95

Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr
            100                 105                 110

Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu
        115                 120                 125

Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg
    130                 135                 140

Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser
145                 150                 155                 160

Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu
                165                 170                 175

Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val
            180                 185                 190

Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu
        195                 200                 205

Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Cys Asn Gly Arg Cys
    210                 215                 220

Val Ser Gly Cys Ala Gly Arg Cys
225                 230
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<210> 8
<211> 228
<212> PRT
<213> Artificial

<220>
<221> Amino acid sequence of tTF-GCVLNGRMEC

<400> 8

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Ser Gly Thr Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser
1               5                  10                  15

Thr Asn Phe Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln
            20                  25                  30

Val Tyr Thr Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys
        35                  40                  45

Cys Phe Tyr Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val
    50                  55                  60

Lys Asp Val Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala
65                  70                  75                  80

Gly Asn Val Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn
                85                  90                  95

Ser Pro Glu Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr
            100                 105                 110

Ile Gln Ser Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu
        115                 120                 125

Asp Glu Arg Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg
    130                 135                 140

Asp Val Phe Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser
145                 150                 155                 160

Ser Ser Ser Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu
                165                 170                 175

Ile Asp Val Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val
            180                 185                 190

Ile Pro Ser Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu
        195                 200                 205

Cys Met Gly Gln Glu Lys Gly Glu Phe Arg Gly Cys Val Leu Asn Gly
    210                 215                 220

Arg Met Glu Cys
225
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<210> 9
<211> 654
<212> DNA
<213> Artifical

<220>
<221> Nucleotide sequence of tTF_{1-21}

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acaattttgg agtgggaacc caaacccgtc aatcaagtct acactgttca aataagcact 120

aagtcaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc 180

gacgagattg tgaaggatgt gaagcagacg tacttggcac gggtcttctc ctacccggca 240

gggaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc cccagagttc 300

acaccttacc tggagacaaa cctcggacag ccaacaattc agagttttga acaggtggga 360

acaaaagtga atgtgaccgt agaagatgaa cggactttag tcagaaggaa caacactttc 420

ctaagcctcc gggatgtttt tggcaaggac ttaatttata cactttatta ttggaaatct 480

tcaagttcag gaaagaaaac agccaaaaca aacactaatg agtttttgat tgatgtggat 540

aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctcccgaac agttaaccgg 600

aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt caga 654

<210> 10
<211> 672
<212> DNA
<213> Artificial

<220>
<221> Nucleotide sequence of tTF-GRGDSP

<400> 10
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acaattttgg agtgggaacc caaacccgtc aatcaagtct acactgttca aataagcact 120

aagtcaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc 180

gacgagattg tgaaggatgt gaagcagacg tacttggcac gggtcttctc ctacccggca 240

gggaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc cccagagttc 300

acaccttacc tggagacaaa cctcggacag ccaacaattc agagttttga acaggtggga 360

acaaaagtga atgtgaccgt agaagatgaa cggactttag tcagaaggaa caacactttc 420

ctaagcctcc gggatgtttt tggcaaggac ttaatttata cactttatta ttggaaatct 480

tcaagttcag gaaagaaaac agccaaaaca aacactaatg agtttttgat tgatgtggat 540

aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctcccgaac agttaaccgg 600

aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt cagaggaaga 660

ggtgattctc ca 672

<210> 11
<211> 675
<212> DNA
<213> Artificial

<220>
<221> Nucleotide sequence of tTF-GNGRAHA

<400> 11
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acaattttgg agtgggaacc caaacccgtc aatcaagtct acactgttca aataagcact 120

aagtcaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc 180

gacgagattg tgaaggatgt gaagcagacg tacttggcac gggtcttctc ctacccggca 240

gggaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc cccagagttc 300

acaccttacc tggagacaaa cctcggacag ccaacaattc agagttttga acaggtggga 360

acaaaagtga atgtgaccgt agaagatgaa cggactttag tcagaaggaa caacactttc 420

ctaagcctcc gggatgtttt tggcaaggac ttaatttata cactttatta ttggaaatct 480

tcaagttcag gaaagaaaac agccaaaaca aacactaatg agtttttgat tgatgtggat 540

aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctcccgaac agttaaccgg 600

aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt cagaggtaac 660

ggaagagcac atgca 675

<210> 12
<211> 684
<212> DNA
<213> Artificial

<220>
<221> Nucleotide sequence of tTF-GALNGRSHAG

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acaattttgg agtgggaacc caaacccgtc aatcaagtct acactgttca aataagcact 120

aagtcaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc 180

gacgagattg tgaaggatgt gaagcagacg tacttggcac gggtcttctc ctacccggca 240

gggaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc cccagagttc 300

acaccttacc tggagacaaa cctcggacag ccaacaattc agagttttga acaggtggga 360

acaaaagtga atgtgaccgt agaagatgaa cggactttag tcagaaggaa caacactttc 420

ctaagcctcc gggatgtttt tggcaaggac ttaatttata cactttatta ttggaaatct 480

tcaagttcag gaaagaaaac agccaaaaca aacactaatg agtttttgat tgatgtggat 540

aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctcccgaac agttaaccgg 600

aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt cagaggtgct 660

ttaaatggaa gatctcacgc tggt 684

<210> 13
<211> 675
<212> DNA
<213> Artificial

<220>
<221> Nucleotide sequence of tTF-GCNGRCG

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acaattttgg agtgggaacc caaacccgtc aatcaagtct acactgttca ataagcact 120

aagtcaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc 180

gacgagattg tgaaggatgt gaagcagacg tacttggcac gggtcttctc ctacccggca 240

gggaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc cccagagttc 300

acaccttacc tggagacaaa cctcggacag ccaacaattc agagttttga acaggtggga 360

acaaaagtga atgtgaccgt agaagatgaa cggactttag tcagaaggaa caacactttc 420

ctaagcctcc gggatgtttt tggcaaggac ttaatttata cactttatta ttggaaatct 480

tcaagttcag gaaagaaaac agccaaaaca aacactaatg agtttttgat tgatgtggat 540

aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctcccgaac agttaaccgg 600

aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt cagaggctgc 660

aacggtagat gtggt 675

<210> 14
<211> 696
<212> DNA
<213> Artificial

<220>
<221> Nucleotide sequence of tTF-GCNGRCVSGCAGRC

<400> 14
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acaattttgg agtgggaacc caaacccgtc aatcaagtct acactgttca aataagcact 120

aagtcaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc 180

gacgagattg tgaaggatgt gaagcagacg tacttggcac gggtcttctc ctacccggca 240

gggaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc ccagagttc 300

acaccttacc tggagacaaa cctcggacag ccaacaattc agagttttga acaggtggga 360

acaaaagtga atgtgaccgt agaagatgaa cggactttag tcagaaggaa caacactttc 420

ctaagcctcc gggatgtttt tggcaaggac ttaatttata cactttatta ttggaaatct 480

tcaagttcag gaaagaaaac agccaaaaca aacactaatg agtttttgat tgatgtggat 540

aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctcccgaac agttaaccgg 600

aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt cagaggttgt 660

aatggaagat gtgtttctgg atgtgcagga cgatgt 696

<210> 15
<211> 684
<212> DNA
<213> Artificial

<220>
<221> Nucleotide sequence of tTF-GCVLNGRMEC

<400> 15
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acaattttgg agtgggaacc caaacccgtc aatcaagtct acactgttca aataagcact 120

aagtcaggag attggaaaag caaatgcttt tacacaacag acacagagtg tgacctcacc 180

gacgagattg tgaaggatgt gaagcagacg tacttggcac gggtcttctc ctacccggca 240

gggaatgtgg agagcaccgg ttctgctggg gagcctctgt atgagaactc ccagagttc 300

acaccttacc tggagacaaa cctcggacag ccaacaattc agagttttga acaggtggga 360

acaaaagtga atgtgaccgt agaagatgaa cggactttag tcagaaggaa caacactttc 420

ctaagcctcc gggatgtttt tggcaaggac ttaatttata cactttatta ttggaaatct 480

tcaagttcag gaaagaaaac agccaaaaca aacactaatg agtttttgat tgatgtggat 540

aaaggagaaa actactgttt cagtgttcaa gcagtgattc cctcccgaac agttaaccgg 600

aagagtacag acagcccggt agagtgtatg ggccaggaga aaggggaatt cagaggatgc 660

gtcttaaatg gtaggatgga atgc 684

<210> 16
<211> 45
<212> DNA
<213> Artifical

<220>
<221> 5′ Oligonucleotide primer for the preparation of tTF_{1-218}

<400> 16
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<210> 17
<211> 40
<212> DNA
<213> Artifical

<220>
<221> 3′ Oligonucleotide primer for the preparation of tTF_{1-218}

<400> 17
cgggatccta ttatctgaat tccccttttct cctggcccat 40

<210> 18
<211> 45
<212> DNA
<213> Artificial

<220>
<221> 5′ Oligonucleotide primer for the preparation of tTF-GRGDSP

<400> 18
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<210> 19
<211> 43
<212> DNA
<213> Artificial

<220>

<221> 3' Oligonucleotide primer for the preparation of tTF-GRGDSP

<400> 19
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<210> 20
<211> 45
<212> DNA
<213> Artificial

<220>
<221> 5' Oligonucleotide primer for the preparation of tTF-GNGRAHA

<400> 20
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<210> 21
<211> 46
<212> DNA
<213> Artificial

<220>
<221> 3' Oligonucleotide primer for the preparation of tTF-GNGRAHA

<400> 21
cgggatccta ttatgcatgt gctcttccgt tacctctgaa ttcccc 46

<210> 22
<211> 45
<212> DNA
<213> Artificial

<220>
<221> 5' Oligonucleotide primer for the preparation of tTF-GCNGRCG

<400> 22
catgccatgg gatcaggcac tacaaatact gtggcagcat ataat 45

<210> 23
<211> 46
<212> DNA
<213> Artificial

<220>
<221> 3' Oligonucleotide primer for the preparation of tTF-GCNGRCG

<400> 23
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<210> 24
<211> 45
<212> DNA
<213> Artificial

<220>
<221> 5' Oligonucleotide primer for the preparation of tTF-GCNGRCVSGCAGRC

<400> 24
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<210> 25
<211> 67
<212> DNA
<213> Artificial

<220>
<221> 3' Oligonucleotide primer for the preparation of tTF-GCNGRCVSGCAGRC

<400> 25
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attcccc 67

<210> 26
<211> 45
<212> DNA
<213> Artificial

<220>
<221> 5' Oligonucleotide primer for the preparation of tTF-GCVLNGRMEC

<400> 26
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<210> 27
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<212> DNA
<213> Artificial

<220>
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<400> 27
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<210> 28
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<212> DNA
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<220>

<221> 5' Oligonucleotide primer for the preparation of tTF-GALNGRSHAG

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<210> 29
<211> 55
<212> DNA
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<220>
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<210> 30
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<212> PRT

<213> Artificial

<220>
<221> Amino acid sequence of the affinity-tag

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1 5 10 15

Met Lys Glu Thr Ala Ala Ala Lys Phe Glu Arg Gln His Met Asp Ser
20 25 30

Pro Asp Leu Gly Thr Asp Asp Asp Asp Lys Ala Met Gly
35 40 45

<210> 31
<211> 269
<212> PRT
<213> Artificial

<220>
<221> Amino acid squence of tTF-GRGDSP having an N-terminal affinity-tag

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His His His His His His Ser Ser Gly Leu Val Pro Arg Gly Ser Gly
1 5 10 15

Met Lys Glu Thr Ala Ala Ala Lys Phe Glu Arg Gln His Met Asp Ser
20 25 30

Pro Asp Leu Gly Thr Asp Asp Asp Asp Lys Ala Met Gly Ser Gly Thr
35 40 45

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Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser Thr Asn Phe
    50                  55                  60

Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln Val Tyr Thr
65                  70                  75                  80

Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys Cys Phe Tyr
                85                  90                  95

Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val Lys Asp Val
            100                 105                 110

Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala Gly Asn Val
        115                 120                 125

Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn Ser Pro Glu
    130                 135                 140

Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr Ile Gln Ser
145                 150                 155                 160

Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu Asp Glu Arg
                165                 170                 175

Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg Asp Val Phe
            180                 185                 190

Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser Ser Ser Ser
        195                 200                 205


Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu Ile Asp Val
    210                 215                 220

Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val Ile Pro Ser
225                 230                 235                 240

Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu Cys Met Gly
                245                 250                 255

Gln Glu Lys Gly Glu Phe Arg Gly Arg Gly Asp Ser Asp
            260                 265


<210>  32
<211>  270
<212>  PRT
<213>  Artificial

<220>
<221> Amino acid sequence of tTF-GNGRAHA having an N-terminal affinity-tag

<400>  32
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Met Lys Glu Thr Ala Ala Ala Lys Phe Glu Arg Gln His Met Asp Ser
            20                  25                  30
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Pro Asp Leu Gly Thr Asp Asp Asp Asp Lys Ala Met Gly Ser Gly Thr
        35                  40                  45

Thr Asn Thr Val Ala Ala Tyr Asn Leu Thr Trp Lys Ser Thr Asn Phe
    50                  55                  60

Lys Thr Ile Leu Glu Trp Glu Pro Lys Pro Val Asn Gln Val Tyr Thr
65                  70                  75                  80

Val Gln Ile Ser Thr Lys Ser Gly Asp Trp Lys Ser Lys Cys Phe Tyr
                85                  90                  95

Thr Thr Asp Thr Glu Cys Asp Leu Thr Asp Glu Ile Val Lys Asp Val
            100                 105                 110

Lys Gln Thr Tyr Leu Ala Arg Val Phe Ser Tyr Pro Ala Gly Asn Val
        115                 120                 125

Glu Ser Thr Gly Ser Ala Gly Glu Pro Leu Tyr Glu Asn Ser Pro Glu
    130                 135                 140

Phe Thr Pro Tyr Leu Glu Thr Asn Leu Gly Gln Pro Thr Ile Gln Ser
145                 150                 155                 160

Phe Glu Gln Val Gly Thr Lys Val Asn Val Thr Val Glu Asp Glu Arg
                165                 170                 175

Thr Leu Val Arg Arg Asn Asn Thr Phe Leu Ser Leu Arg Asp Val Phe
            180                 185                 190

Gly Lys Asp Leu Ile Tyr Thr Leu Tyr Tyr Trp Lys Ser Ser Ser Ser
        195                 200                 205

Gly Lys Lys Thr Ala Lys Thr Asn Thr Asn Glu Phe Leu Ile Asp Val
    210                 215                 220

Asp Lys Gly Glu Asn Tyr Cys Phe Ser Val Gln Ala Val Ile Pro Ser
225                 230                 235                 240

Arg Thr Val Asn Arg Lys Ser Thr Asp Ser Pro Val Glu Cys Met Gly
                245                 250                 255

Gln Glu Lys Gly Glu Phe Arg Gly Asn Gly Arg Ala His Ala
            260                 265                 270
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